

Amendments to the Specification

17, 18, 19 20

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Please replace Paragraphs [0019], [0020], [0022] and [0023] with the following amended paragraphs:

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[0019] Referring to FIGS. 1-2, a gear-type key switch of a keyboard device of the first embodiment of the present invention comprises a key top 11, a holder member 15, four gears 13, a spring member 16 comprising a dome portion and an edge portion formed at a bottom of the dome portion, a film circuit board 17 and a supporting plate 18. The spring member 16 and the holder member 15 are located above the supporting plate 18 and under the key top 11. The holder member 15 defines a circular through hole 22, and the edge portion of the spring member 16 protrudes through the circular through hole 22 of the holder member 15 to electrically connect with the film circuit board 17 for signal transmission. The film circuit board 17 is located between the supporting plate 18 and the spring member 16. Four pairs of shafts 14 are disposed on the holder member 15 around the circular through hole 22. Each gear 13 comprises a body portion forming a plurality of gear teeth and two opposite ends with diameter smaller than that of the body portion. The two shafts 14 of each pair are arranged face to face with a predetermined distance corresponding to the opposite ends of each gear 13 for rotatably supporting the gear 13. Each shaft 14 defines a gear-receiving hole 20 with a small-size opening 21 communicating with the gear-receiving hole 20 and the top edge thereof. The opposite ends of each gear 13 are correspondingly pressed through the openings 21 of the pair of the shafts 14 to be received in the gear-receiving holes 20 and are capable of rotating in the gear-receiving holes 20. Thus, the four gears 13 assembled to the shafts 14 form a quadrangle shape. In addition, adjacent two shafts 14 of different pairs are arranged to form an angle about 90 degrees therebetween.

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[0020] At least four rack supporting members 12 extend downwardly from a bottom surface of the key top 11 corresponding to the gears 13. Each rack supporting member 12 forms a

plurality of rack teeth on outer surface thereof to engage with the gear teeth of corresponding gear 13, thus, forming gear-type structure of the key switch which is capable of moving upwardly and downwardly. A post 23 is formed in a center of the area circumscribed by the four rack supporting members 12 of the key top 11 to insert into a hole 24 defined in the spring member 16 for position the key top 11 to the spring member 16. When the key top 11 is pressed downwardly, the four rack supporting members 12 of the key top 11 respectively engage with the gear teeth of the four gears 13 and form a balance. Therefore, the key top 11 is capable of moving upwardly and downwardly along a substantially vertical direction and achieves perfect pressing handle. Each rack supporting member 12 forms a restrictive barb 121 extending outwardly beyond the outer surface thereof for restricting excessive upward movement of the key top 11 actuated by the elastic return force of the spring member 16.

[0022] Referring to FIG. 4, a gear-type key switch of a keyboard device of the second embodiment of the present invention comprises a key top 11, a holder member 15, three gears 13, a spring member 16 comprising a dome portion and an edge portion formed at a bottom base of the dome portion, a film circuit board 17 and a supporting plate 18. The spring member 16 and the holder member 15 are located above the supporting plate 18 and under the key top 11. The holder member 15 defines a circular through hole 22, and the edge portion of the spring member 16 protrudes through the circular through hole 22 of the holder member 15 to electrically connect with the film circuit board 17 for signal transmission. The film circuit board 17 is located between the supporting plate 18 and the spring member 16. Three pairs of shafts 14 are disposed on the holder member 15 around the circular through hole 22. Each gear 13 comprises a body portion forming a plurality of gear teeth and two opposite ends with diameter smaller than that of the body portion. The two shafts 14 of each pair are arranged face to face with a predetermined distance corresponding to the opposite ends of each gear 13 for rotatably supporting the gear 13. Each shaft 14 defines a gear-receiving hole 20 with a small-size opening 21 communicating with the gear-receiving hole 20 and the top edge thereof. The opposite ends of each gear 13 are correspondingly pressed through the openings 21 of the

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pair of the shafts 14 into the gear-receiving holes 20 and are capable of rotating in the gear-receiving holes 20. Thus, the three gears 13 assembled to the shafts 14 form a triangular shape. In addition, adjacent two shafts 14 of different pairs are arranged to form an angle about 120 degrees therebetween.

[0023] At least three rack supporting members 12 extend downwardly from the bottom surface of the key top 11 corresponding to the gears 13. Each rack supporting member 12 forms a plurality of rack teeth on outer surface thereof to engage with the gear teeth of corresponding gear 13, thus, forming gear-type structure of the key switch which is capable of moving upwardly and downwardly. A post 23 is formed in a middle of the area circumscribed by the three rack supporting members 12 of the key top 11 to insert into a hole 24 defined in the spring member 16 for position the key top 11 to the spring member 16. When the key top 11 is pressed downwardly, the three rack supporting members 12 of the key top 11 respectively engage with the gear teeth of the three gears 13 and form a balance. Therefore, the key top 11 is capable of moving upwardly and downwardly along a substantially vertical direction and achieves perfect pressing handle. Each rack supporting member 12 forms a restrictive barb 121 extending beyond the outer surface thereof for restricting excessive upward movement of the key top 11 actuated by the elastic return force of the spring member 16.

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